Docket 14231-2   2 4

40. The method of claim 35, further comprising programming each of said functions $F(d(x(q);y;q))$ to satisfy $0 \leq \max_{y \text{ in } S3} F(d(x(q);y;q)) \leq 1$ for each vector $x(q)$ and further comprising programming said computer to interpret said value $F(d(x'(q);y;q))$ for at least one vector $x'(q)$ in said set S2 as a probability that said measurement vector y belongs to said set S2.

41. The method of claim 35, further comprising programming said computer so that at least one of said sets S1 and S2 corresponds to at least one of a normal medical condition and a benign medical condition.

42. The method of claim 35, further comprising programming said computer so that at least one of said sets S1 and S2 corresponds to a malignant medical condition.

REMARKS

Applicant requests entry of the above preliminary amendment into the present case. Claims 1-5 and 9-13 have been amended to more particularly claim the present invention. None of these amendments add new matter into the existing claims. New claims 17-42 have also been added to more particularly claim the present invention. These new claims do not add new matter and are fully supported by the specification of the present case.

The amendments to claim 1 are supported in the specification from page 4, line 9 to page 10, line 5. New claims 17 and 18 are supported from page 5, line 18 through page 6, line 18 of the specification. New claim 19 is supported in the specification at page 12, lines 20-29 and page 14, lines 9-27. New claim 20 is supported at page 12, lines 18-29 and at page 14, lines 9-27 of the specification. New claim 21 is supported from page 16, line 1 through page 18, line 29. New claims 22 and 23 are supported at page 17, lines 3-11. New claim 24 is supported

Docket 14231-2   25

from page 16, line 1 to page 18, line 29. New claim 25 is supported in the specification from page 17, line 29 through page 18, line 5. New claim 26 is supported from page 16, line 1 to page 17, line 29. New claim 27 is supported from page 16, line 16 through page 17, line 11 of the new case. New claims 28 and 29 are supported at page 18, lines 17-29 of the specification. New claims 30-31 are supported at page 17, lines 3-11. New claim 32 is supported at page 16, line 1 to page 18, line 29 of the specification. New claims 33 and 34 are supported by the specification at page 17, lines 3-11. New claim 35 is supported at page 16, line 1 through page 18, line 29. New claim 36 is supported from page 17, line 29 through page 18, line 5. New claim 37 is supported at page 16, line 1 to page 17, line 29. New claim 38 is supported at page 16, line 16 to page 17, line 11. New claims 39 and 40 are supported at page 18, lines 17-29 of the specification. Finally, new claims 41 and 42 are supported in the specification at page 17, lines 3-11.

Applicant respectfully requests examination of the case after entry of the above preliminary amendment. Please contact the undersigned with any questions regarding this preliminary amendment.

Respectfully submitted,

ATTORNEY FOR APPLICANT   Robert M. Padilla
                              Reg. No. 38,987

                              Date: 8-27-01

NASA Ames Research Center
Mail Stop 202A-3
Moffett Field, California 94035-1000
Telephone: (650) 604-5104